

REMARKS

Applicant acknowledges the Examiner Interview Record mailed July 18, 2005 for the telephonic interview held July 14, 2005. During the interview, each of the pending claims were discussed. As represented to the Examiner during the interview, attached hereto is a Declaration signed by one of the inventors, pursuant to 35 USC 1.312. Also, as discussed during the interview, a clarification of Applicant's statement in paragraph 0003 on page 1 of the specification is provided below.

Applicant respectfully submits the Amendments and Remarks in order to place the present application in condition for allowance. Applicant respectfully requests favorable reconsideration of this application and the claims in view of the following Remarks.

To The Claims

Claims 1, 8, 10-12, and 15 stand rejected. Applicant has cancelled claim 12. Claims 1, 8, 10, 11, 15, and 21 are thus still pending.

With regard to formal changes, Applicant has added double brackets to show deleted text in claims 1, 8, 10-11, and 15 as suggested by the Examiner. Applicant has changed the preamble in claims 8, 10-11 to include a computer-aided method to match the preamble in claim 1. Applicant appreciates the Examiner's suggestions in this regard.

In paragraph 3 of the Examiner's Office Action, the Examiner has advised Applicant of the obligation to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the Examiner to consider the

applicability of 103(c), 102(e), (f), or (g) prior art under 103(a). As each claim was commonly owned when the inventions were made, Applicant has no such claims to report.

Rejections under 35 USC § 103

The Examiner has rejected claims 1, 8, 10-12, and 21 under 35 USC § 103 in view of Pomorski in combination with Glawischnig, Applicant's Admissions of the prior art, and Weiss.

With regard to rejected claim 1, the Examiner notes that Pomorski discloses calculating OEE values, but fails to disclose the remaining elements of the claim. The Examiner then relies on Glawischnig to show a OEE-determining values in a graphical format display, and in particular relies on the pie chart shown in Fig. 1. The Examiner then relies on Applicant's statement in paragraph 0003 lines 3-7, in which Applicant stated, "...displays showing the OEE value along with OEE-determining variables are often shown on a *display* positioned alongside the equipment. Such placement allows both an operator and management to gauge efficiency on-site as well as allowing improvements and declines in productivity to be readily measured and identified." (the "Applicant Statement") to show it would have been obvious to apply the inventions of Pomorski and Glawischnig because the viewing of the graphical format display by the operator would enable the operator to gauge the OEE to improve OEE.

Applicant respectfully disagrees that the combination of the Pomorski, Glawischnig, and the Applicant Statement is proper to show that the first three elements of claim 1 would have been obvious to one of ordinary skill in the art for the following reasons. First, there is a misinterpretation of the word "display" as used in the Applicant Statement. Based on the interview held July 14, 2005, the Examiner appears to believe the term "display" as italicized in

the previous paragraph refers to the same “display” referred to in the claim. Applicant respectfully asserts that the uses of the word “display” in the two instances is different. “Display” as used in the “Applicant Statement” refers to an output device, such as a monitor. “Graphical format display” as used in claim 1 has the meaning described in paragraph 00015 on page 3. However, for clarification, claim 1 has been amended to read “graphical format on a display” to eliminate the confusion caused by the dual meaning of “display.” As such, claim 1 refers to a representation of OEE information in a graphical format on a display, for use by an operator in improving OEE. This element is entirely missing from the Applicant Statement alone, or in combination with the other references.

Further, combining the pie chart in Glawischnig with the Applicant Statement which merely states that OEE information may be shown on a monitor, is improper because up to the time of the present application, no person of ordinary skill in the art thought to combine the simplicity of a pie chart or other graphical format to provide information to equipment operators in a form they could understand. This assertion is bolstered by the attached Declaration of one of the inventors, John Oskin, in which Mr. Oskin states that the long felt need to present information to equipment operators in a format an equipment operator could understand has, until the present invention, gone unsatisfied. Others in the industry have struggled with the problem of presenting understandable information to equipment operators throughout Mr. Oskin’s long career. Further, as supported by the attached Declaration, following the inclusion of the method described in claim 1 into his company’s products and services, Mr. Oskin’s company met with considerable commercial success. This presents strong evidence that a person

of ordinary skill in the art would not have thought to combine the data elements in Pomorksi, with the pie chart representation in Glawischnig, with knowledge that OEE information can be shown in a graphical format on a display, to solve the problem described above, as disclosed in claim 1.

The Examiner further relies on Weiss to show that a fab operator can improve OFE which the Examiner equates to OEE, by optimizing factors which affect: tool idle time, setup time, and wafer manipulation times. As with the previous two references and the Applicant Statement discussed above, this fourth reference, the Weiss reference, is not properly combined with the other references and the Applicant Statement to form a rejection. The factors listed for a fab operator/designer to optimize are not the type of factors an operator who is not also a designer, could control. The factors listed are fab layout, scheduling rules, payload carriers, and the extent of automation. In contrast, the present application refers to non-design elements, such as more efficient equipment setup or reducing delays due to shift transitions (see specification, paragraph 00029 at page 7). As Weiss entirely lacks the motivation, suggestion, or other reason to combine the above elements to assist equipment operators to quickly and simply understand OEE information in a format they could understand, Applicant respectfully requests the rejection be withdrawn.

With regard to claim 8 and 10, as claim 1 is believed to be patentable over the cited references and the Applicant statement, claim 8 and 10 which depend on claim 1 are believed to be patentable as well.

With regard to claim 11, in addition to being patentable because claim 11 depends on now patentable claim 1, Applicant respectfully asserts that it is not inherent in the art to reward an equipment operator who has used a simplified OEE information presented in a graphical format on a display for improving efficiency in using that tool. As stated in Mr. Oskin's Declaration, the problem until the present invention was how to communicate complex OEE information into a format an operator could understand. The addition of rewarding an operator who is able to process such vital information using the brand new communication methodology described in claim 1 and claim 11 thus cannot be inherent.

The Examiner has rejected claim 21 relying on the same references and the same Applicant Statement discussed above. Claim 21 adds a step of "improving operational efficiency by having an operator view the pie chart and having the operator take corrective action that will increase the size of the wedge corresponding to the overall equipment effectiveness value or decrease the size of at least one of the wedges corresponding to values other than the overall equipment effectiveness value." The Examiner relies on Weiss to show this element. In doing so, the Examiner imagines a hypothetical wedge and a hypothetical operator taking actions that reduce the impact of the hypothetical wedge. However, this logical jump is not warranted in the present context because Weiss alone or in combination with the other references does not position the pie chart in view of the equipment operator so that action can be taken to reduce the size of a targeted wedge.

The Examiner refers to Glawischnig, page 358, to assert a purported motivation for combining the references. More particularly, the Examiner refers to the statement "that actions

associated with an operator to improve efficiency are identified.” However, Glawischnig, nor any of the other reference, nor the Applicant Statement disclose the operator taking corrective action. Glawischnig appears to discuss global action to be taken by management to control operator availability. Evidence of this is found in the listed attributes for the “operator category”- cross training, time charts, shift changes. The types of operator efficiency benefiting activities would not be under the control of the operator, and especially would not be assisted by an operator looking at OEE data in a graphical format on a display for the equipment the operator is operating. As such, Applicant respectfully requests the Examiner’s rejection be withdrawn.

Finally, the Examiner has rejected claim 15, citing U.S. Patent No. 6,256,550 (“Wu”) in view of Glawischnig. The Examiner asserts that Wu discloses “a general purpose computer, the general purpose computer being loaded with a software module containing instructions for calculating one or more values related to overall equipment effectiveness for at least one equipment of the plurality of equipment.” and “a plurality of terminals...displaying [OEE information] on a graphical format display.”

However, the Examiner has not indicated where Wu discloses that each terminal of the plurality of terminals is positioned at an operator location. As discussed above, it is the ability for the equipment operator to see, for this claim, the pie chart in order to quickly and efficiently process causes of OEE loss, in a format the equipment operator could understand. As such, Wu, alone or in combination with the other references, fails to disclose the claim method. Further, as discussed above in connection with the Declaration of John Oskin, no one in the industry prior to

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the present invention thought to have a pie chart presentation of OEE information positioned at an operator location for interpretation and use by an operator. Therefore, Applicant respectfully asserts the rejection under 35 U.S.C. 103 be withdrawn.

With the foregoing in mind, Applicant respectfully requests that the Examiner place the present application in condition for allowance.

Should the Examiner be of the opinion that further amendments or response is required, the Applicant encourages the Examiner to contact the undersigned attorney at the telephone number set forth below.

Although no additional fees are believed to be due at this time, the Commissioner is authorized to charge any additional fees or deficiencies or credit any overpayments to Barnes & Thornburg LLP Deposit Account No. 12-0913 with reference to attorney docket number (30451-94753).

Respectfully submitted,
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